

NEW FLEAS FROM SOUTH AFRICA.

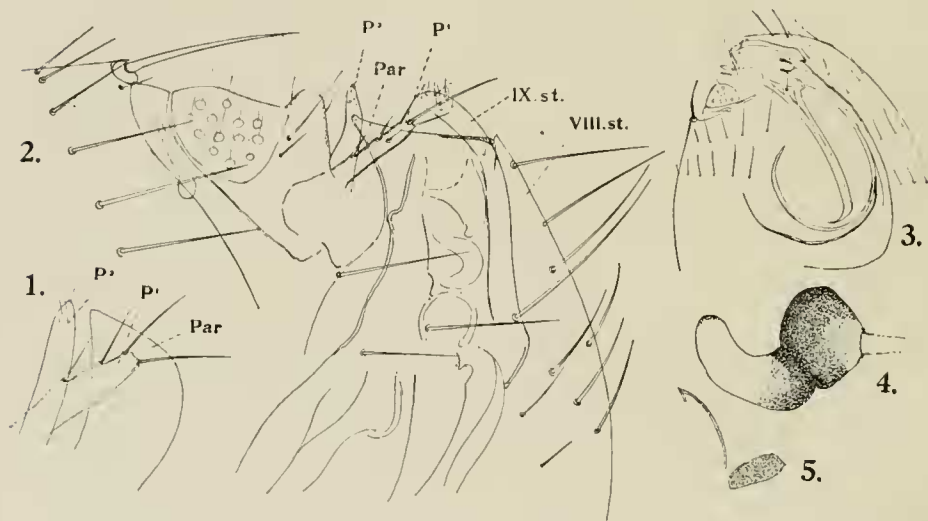
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(With 9 text-figures.)

THE following two species were found among some material submitted for identification to the Department of Entomology of the Institute for Medical Research.

I am greatly indebted to Dr. K. Jordan for allowing me access to the collection at Tring, and for his help during the preparation of this paper.

1. *Xenopsylla trifarius* sp. nov. (text-figs. 2-5).

This species is intermediate between three subgroups of the genus *Xenopsylla*,¹ as follows :

- | | |
|--|------------------------------|
| No bristle behind or above metepisternal stigma ; antepygidial bristle of the male on a small cone | <i>brasiliensis</i> subgroup |
| Presence of a double, chitinated, sclerite in female behind the opening of the bursa copulatrix (fig. 5) reminiscent of <i>X. eridos</i> | <i>cheopis</i> subgroup |
| Dorsal hump on ejaculatory duct of male (fig. 2) ; lamina of male organs narrow, its proximal end acuminate and turned up (fig. 3) | <i>niloticus</i> subgroup |

¹ Jordan, K. (1925), "On *Xenopsylla* and Allied Genera of Siphonaptera," in *Verhandl. III. International. Entomologen-Kongresses*, pp. 593-624 (1926).

According to the male genitalia this flea is very near *Xenopsylla niloticus* J. & R. 1908. The two species are separable as follows :

Xenopsylla niloticus

Eye reduced.

P¹ of the male with two apical bristles of equal length (fig. 1).

Paramere rounded on its apical ventral margin (fig. 1, par.).

A bristle above and behind the spiracle of the metepisternum.

Sternites III-VI with 12-16 bristles in the female.

Base of the tail of the spermatheca hardly swollen at all, much narrower than the head.

Xenopsylla trifarius sp. nov.

Eye well developed.

P¹ with one apical bristle longer than the other (fig. 2).

Apical margin of paramere straight, forming a right angle with the ventral margin (fig. 2, par.).

No bristle in these places.

Sternites III-VI with 6-10 bristles.

Base of the tail swollen and wider than the apex (fig. 4).

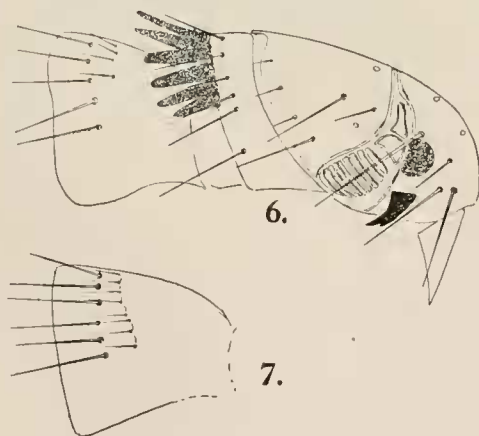
Presence of a double chitinised selerite behind the opening of the bursa copulatrix (fig. 5).

Length of *X. trifarius* : ♂ 1.6 mm., ♀ 1.8 mm.

Klaver, Cape Province, South Africa, in the nest of *Tatera lobengulae*, 11.vii.28. Collector C. V. Muller.—Type in coll. N. C. Rothschild.

2. *Chiastopsylla quadrisetis* sp. nov. (text-figs. 6, 7, 8).

This species belongs to the same group as *C. numae* Roths. and *C. rossi* Waterst. In this group there is a dorsal incrassation from the base of the antenna



to the vertex of the head ; the female of *C. quadrisetis*, resembling *C. octavii* Roths. in having the distal margin of sternite VII evenly rounded (fig. 6), can very easily be separated by this means. The male of *C. octavii* is unknown. Another group in which this incrassation is present is *C. mulleri* Ingram and *C. pūchfordi* Ingram. In these, however, the teeth of the pronotal comb are very short, much shorter than the pronotum itself, while in *C. quadrisetis* these teeth are as long or longer than the pronotum (fig. 7).

The male is easily separated from those of *C. rossi* and *C. numae* by the

shape of the flattened bristles on sternite IX (fig. 8). In *C. rossi* and *C. numae* these bristles are fan-shaped and about as broad as the horizontal limb of sternite IX. The female can be distinguished from those of *C. rossi* and *C. numae* by the median row of bristles on the mesonotum not reaching as far down as the postmedian row (figs. 6 and 7). It also differs in having about 6-7 large bristles on each side of tergite VIII (fig. 9); in the females of *C. rossi* and *C. numae* these bristles are much more numerous.

♂, ♀. *Head* (fig. 6) evenly rounded in the female; in the male there is a small notch on the frons near the origin of the maxillary palps. There are two spines at the genal angle resembling those of *Chiaistopsylla rossi*. Hairs and bristles on the head as in *Chiaistopsylla rossi*. Eye well developed. Relative lengths of the segments of the maxillary palpi 15, 15, 12, 22 in ♂, and 18, 17, 12, 21 in ♀.

There is a dorsal incrustation from the base of the antenna up to the vertex of the head (fig. 6).

Pronotum short, with a row of 10-11 bristles before the comb, which consists of 12-13 teeth. Pronotal teeth longer than the pronotum itself (fig. 6).

Mesonotum with a row of fine hairs at the base, a median row of about 9 hairs in ♂, 8-12 in ♀, and a postmedian row of 12 bristles (fig. 6).

Metanotum.—Antemedian row of 8 hairs in ♂, 10 in ♀, and a row of 12 bristles medianly. The posterior edge bears 3-4 short heavy spines. The epimeron of the metanotum bears the following bristles: anterior row ♂ 3, ♀ 3-5; posterior row ♂ and ♀ 3.

Similar spines as on metanotum, one on each side, occur on the posterior edge of abdominal tergites I-IV. In one ♀ there are two such spines on one side and one on the other in the first abdominal segment.

Legs.—There are six pairs of bristles on the outer side of the hind tibia; there is a single bristle between the second and third pairs and one between the fourth and fifth pairs. The relative lengths of the tarsal segments are as follows:

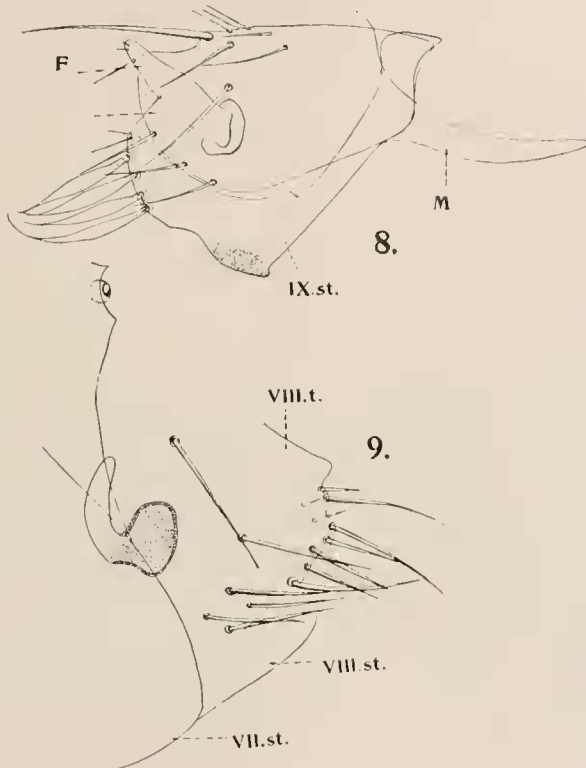
	I	II	III	IV	V
Foreleg	10	11	11	9	20
Midleg	18	18	12	10	20
Hindleg	42	28	16	11	22

Abdomen.—There are two rows of bristles on the tergites of the first seven segments, one on the sternites. Bristles and spines on the tergites and sternites are as follows:

Tergites	I	II	III	IV	V	VI	VII
MALE.							
Antemedian row	6	4	?	3	4	4	3
Postmedian row	8	12	12	12	12	12	12
Teeth	1	1	1	1	—	—	—
Sternites	—	5	5	5	5	6	5
FEMALE.							
Antemedian row	8	7-8	6	6	3-6	4	3-6
Postmedian row	11	12	12-15	12-14	12-13	12-13	10-11
Teeth	1-2	1	1	1	—	—	—
Sternites	—	2	7-9	8	8-9	9-11	11

Antepygidial bristle long, accompanied by two very short ones. Stylet three times as long as broad at the base.

Modified segments.—♂: The "finger" (F, text-fig. 8) is nearly four times as long as it is broad at the base. The hairs on the "finger" are inconspicuous, there being, however, two fairly long ones at the distal margin. The clasper is ovoid in shape; it has a long bristle—with a few shorter ones just before it—



beyond the middle at the dorsal edge; a few short bristles on its distal margin and some on the lateral surface. Sternite IX is characteristic and enables the species to be easily recognised (text-fig. 8); the vertical limb is narrow and more heavily chitinised than the broader horizontal limb; the ventro-apical margin carries a row of four long narrow leaf-like bristles.

♀: The distal margin of tergite VIII is sinuous and carries 8-9 bristles; laterally there are 5-6 bristles. The posterior border of sternite VII is evenly rounded (text-fig. 9).

Length: ♂ 1.3 mm., ♀ 1.7 mm.

One ♂ (type) and four ♀♀ from the nests of Karroo rats (*Parotomys luteolus*) at Klaver, Cape Province, August 1928. The burrows were stated to be far up on the sides of the mountain. Coll. C. V. Muller.—Type in coll. N. C. Rothschild.